Agilent 500 Ion Trap LC/MS with the Agilent 1200 Infinity Series

Set-Up Guide

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Use this guide to set up an Agilent 1200 Infinity Series to work with an Agilent 500 Ion Trap LC/MS.

Before you begin, make sure you have:

- Sync cable (p/n G3932-60001)
- G1398B LAN Card Kit (p/n G1369-60002)
- ChemStation Software
- MS Workstation Software

Refer to the ChemStation and MS Workstation installation guides for system requirements.

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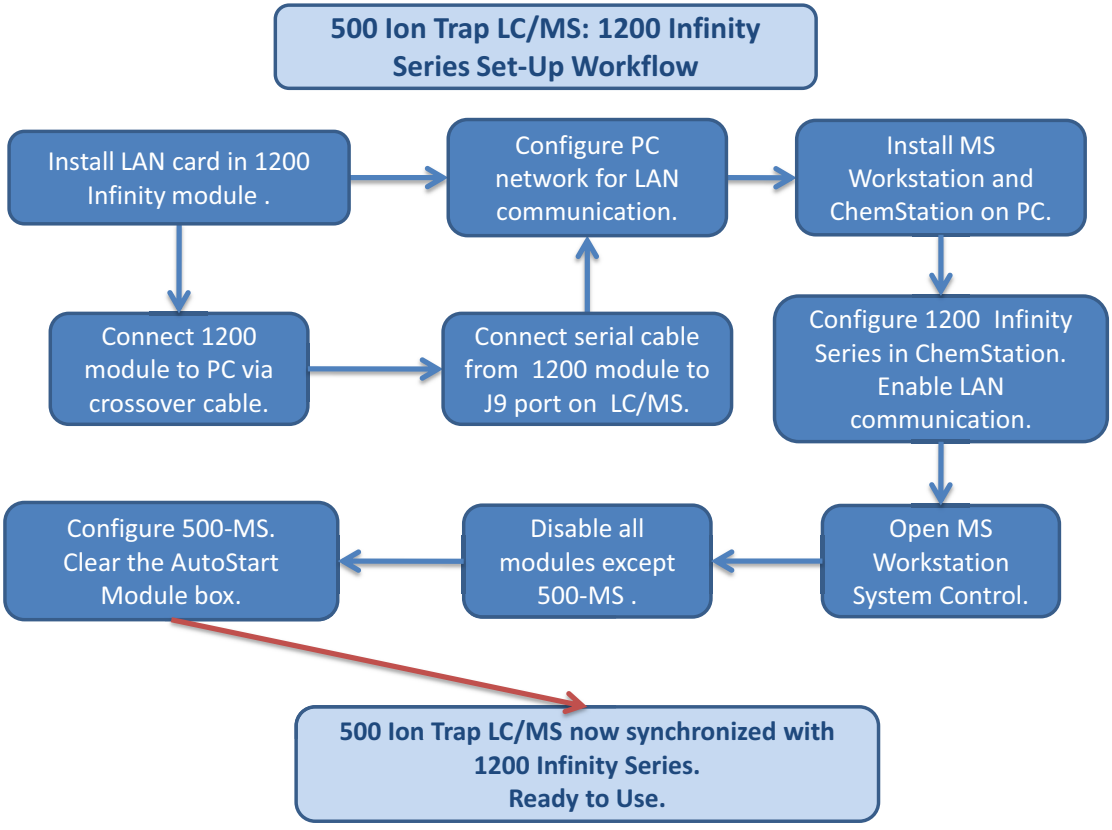
500 Ion Trap LC/MS: 1200 Infinity Series Set-Up Workflow
Install LAN card in 1200 Infinity module .
Configure PC network for LAN communication.
Install MS Workstation and ChemStation on PC.
Connect 1200 module to PC via crossover cable.
Connect serial cable from 1200 module to J9 port on LC/MS.
Configure 1200 Infinity Series in ChemStation. Enable LAN communication.
Configure 500-MS. Clear the AutoStart Module box.
Disable all modules except 500-MS .
Open MS Workstation System Control.
500 Ion Trap LC/MS now synchronized with 1200 Infinity Series. Ready to Use.

Figure 1 Set-up overview

Step 1. Install the LAN card into the Agilent 1200 Infinity Series

Install the G1369A LAN interface card into the LC detector module. If a detector is not present, install the LAN interface card into the pump module or the autosampler. (The pump module is preferred over the autosampler.)

For G1315C/D DAD SL detectors

The LAN interface for the G1315C/D DAD SL is built into the module main board. No LAN interface card installation is needed, but you need to make sure the switches are properly set.

1 Set the switches on the module main board so that switches 7 and 8 are ON or UP.

See Figure 2. Refer to the *Agilent 1200 Series Diode Array and Multiple Wavelength Detector User Manual* (p/n G1315-90012) for more information.

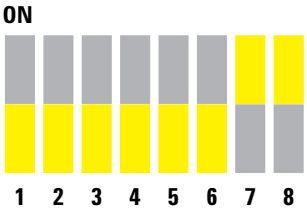

Figure 2 Switch settings to initiate with default settings for the G1315C/D DAD

2 Continue at step 4 on page 3.

For all other LC modules

1 Make a note of the MAC address of the LAN card. See for Figure 3 for location.

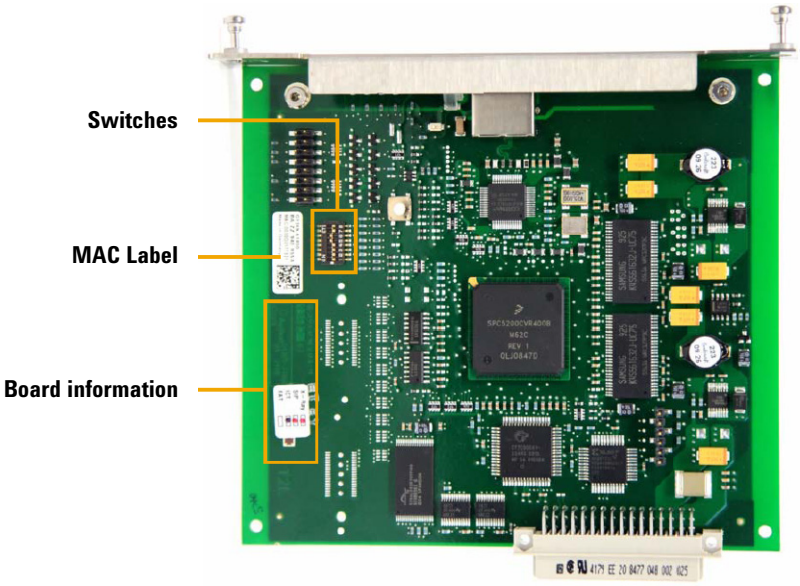

Figure 3 LAN card details

2 Set configuration switches 5 and 6 to **ON** so that the card initiates with default settings. See Figure 4.

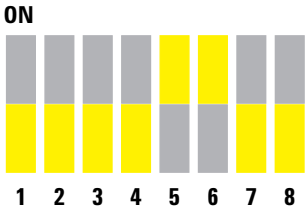

Figure 4 Switch settings to initiate with default settings

3 Follow the instructions that came with the G1369B LAN card to install the card into the pump or autosampler.

4 Connect one end of the supplied LAN crossover cable to the LAN card. Connect the other end to the LAN connector on the PC that controls the Agilent 500 Ion Trap LC/MS.

Figure 5 Crossover cable connected to the LAN card installed in the Agilent 1200 Infinity Series pump module

The LAN card has been set to the default setting, so it will use the default IP address of **192.168.254.11**

Step 2. Configure the network on the PC to work with the LAN card

1 On the control PC, click **Start > Control Panel > Network Connections > Local Area Connection > Properties > Internet Protocol (TCP/IP)**.

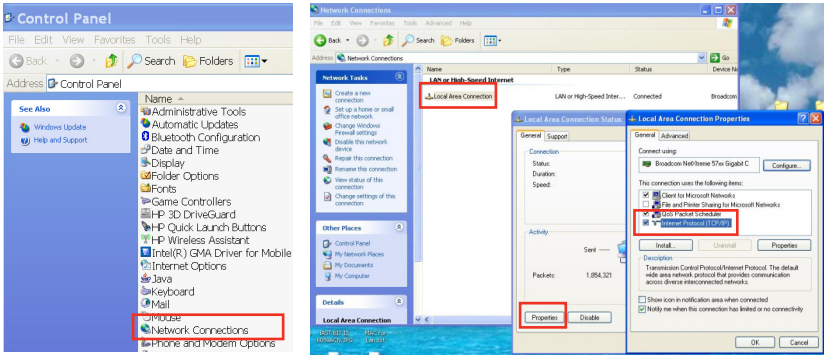

Figure 6 Path to open the Internet Protocol (TCP/IP) Properties dialog box

2 In the Internet Protocol (TCP/IP) Properties dialog box, for **IP address**, set the first 3 segments to be the same as the LAN card, that is, `192.168.254`.

3 Set the last segment of the **IP Address** to something different from the LAN card, such as `10`. See Figure 7.

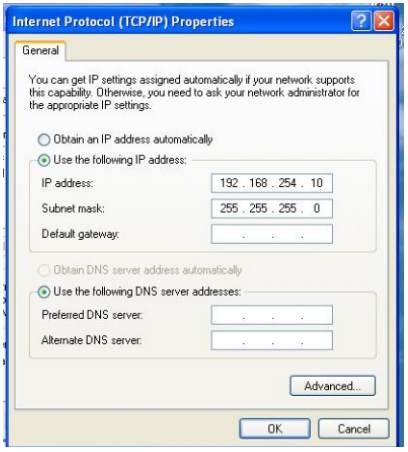
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 254 . 10
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 7 Set IP address

4 Click **Advanced**, then in the Advanced TCP/IP Settings dialog box:

a Click the **IP Settings** tab, then check that the settings match those in Figure 8.

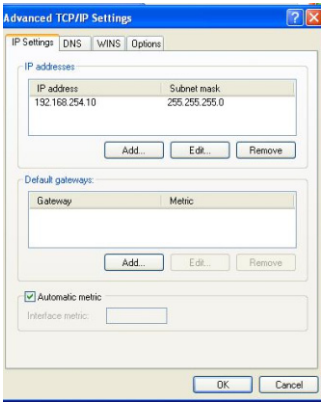

Figure 8 IP Settings

b Click the **DNS** tab, then check that the settings match those in Figure 9.

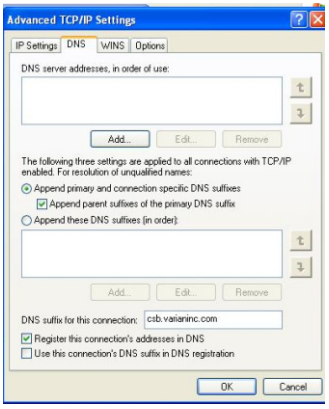

Figure 9 DNS settings

c Click the **WINS** tab, then check that the settings match those in Figure 10.

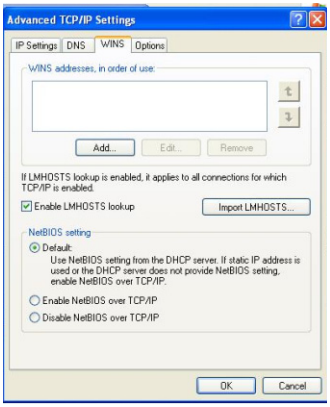
Advanced TCP/IP Settings
IP Settings
DNS
WINS
Options
WINS addresses, in order of use:
Add...
Edit...
Remove
If LMHOSTS lookup is enabled, it applies to all connections for which TCP/IP is enabled.
Enable LMHOSTS lookup
Import LMHOSTS...
NetBIOS setting
Default:
Use NetBIOS setting from the DHCP server. If static IP address is used or the DHCP server does not provide NetBIOS setting, enable NetBIOS over TCP/IP.
Enable NetBIOS over TCP/IP
Disable NetBIOS over TCP/IP
OK
Cancel

Figure 10 WINS settings

d Click the **Options** tab, then check that the settings match those in Figure 11.

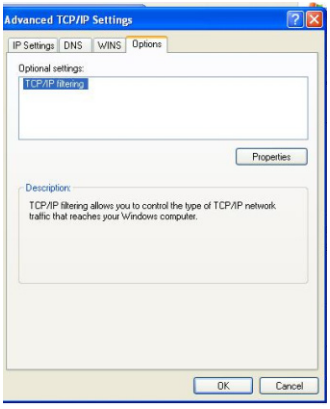

Figure 11 Options settings

Step 3. Install and set up ChemStation Software

1 Install the ChemStation software onto the control PC.

2 Configure the 1200 Modules:

   a Click **Start > All Programs > Agilent ChemStation > Configuration Editor**.

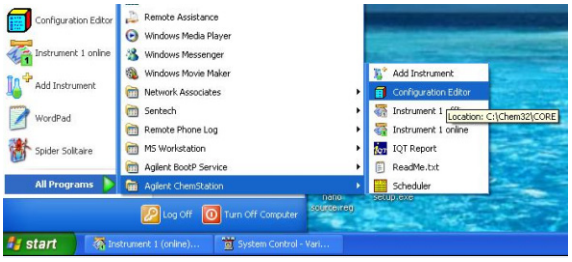

Figure 12 Path to open Configuration Editor

3 Click **Configure > Instruments** to open the Select Instrument dialog box.

4 For **Instrument Type**, select **Modular Systems (Classic)**, then click **OK**. See Figure 13.

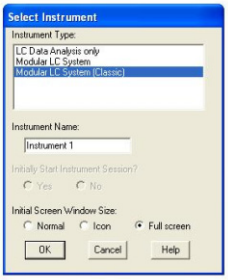

Figure 13 Select Modular Systems (Classic).

5 In the Instrument 1 - Device Configuration dialog box:

   a Click **1100/1200 Access**.

   b In the 1100 Modular System dialog box, for **IP Address**, type `192.168.254.11`, then click **OK**.

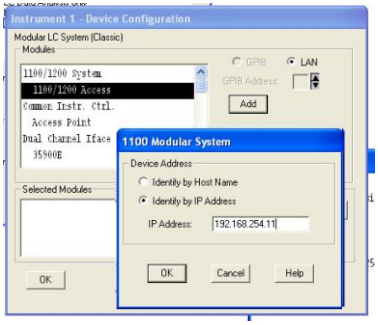

Figure 14 Set IP address for the LC

c Check that **1100/1200 System** appears in the Instrument 1 - Device Configuration dialog box to verify that the PC has successfully connected to the Agilent 1200 Infinity Series.

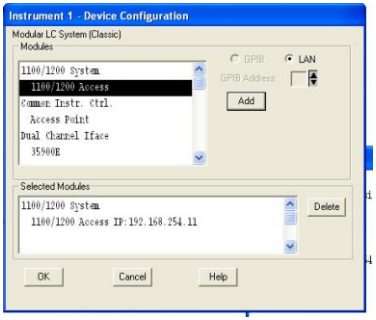

Figure 15 1100/1200 System listed as a configured module

d Click **OK**.

Step 4. Connect the Agilent 500 Ion Trap LC/MS to the Agilent 1200 Infinity Series

1 Connect one end of the supplied remote cable to the **REMOTE** connector on the back of the autosampler. See Figure 16.

Figure 16 REMOTE connector on the back of the autosampler

2 Connect the other end of the remote cable to the **User I/O** port on the back panel of the Agilent 500 Ion Trap LC/MS. See Figure 17.

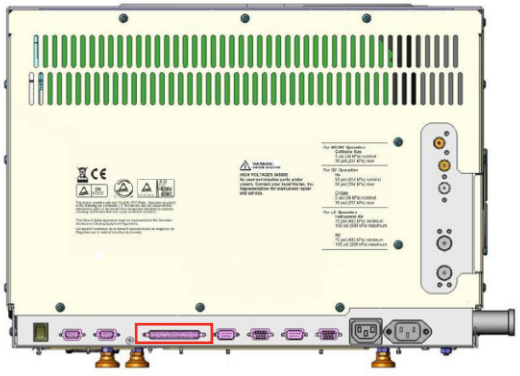

Figure 17 User I/O port on the back panel of the LC/MS.

Step 5. Configure the Agilent 500 Ion Trap LC/MS

1 Open the Agilent MS Workstation toolbar.

2 Right-click the right side of the toolbar, then in the shortcut menu, select **Enable/Disable Instrument Modules**. See Figure 18.

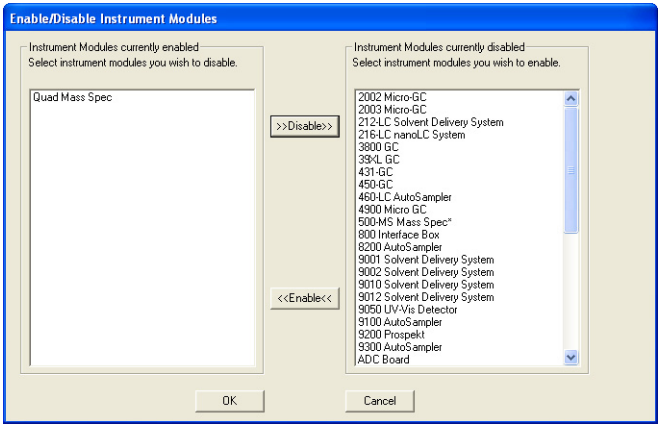

Figure 18 Enable/Disable Instrument Modules dialog box

3 Disable all modules *except* for **Quad Mass Spec**.

To disable a module, select the module from under **Instrument Modules currently enabled**, then click **Disable**.

4 Open the System Control window.

5 Check that the **QUAD** icon is *not* in the AutoStart Module box. See Figure 19.

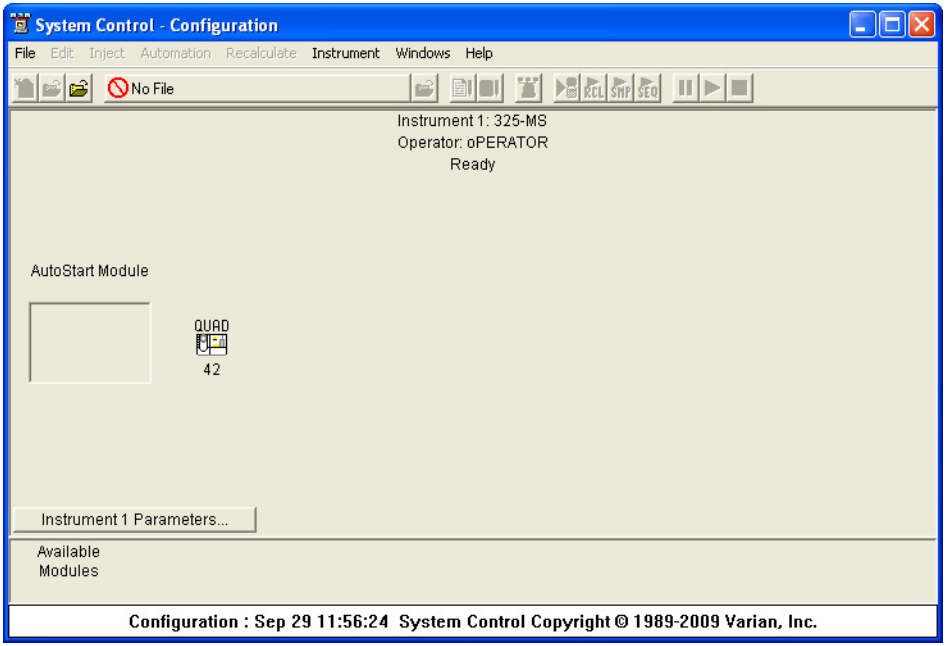

Figure 19 System Control - Configuration window

6 Configure the Sync signals for the Agilent 500 Ion Trap LC/MS:

a Click **Configuration > Sync signals**.

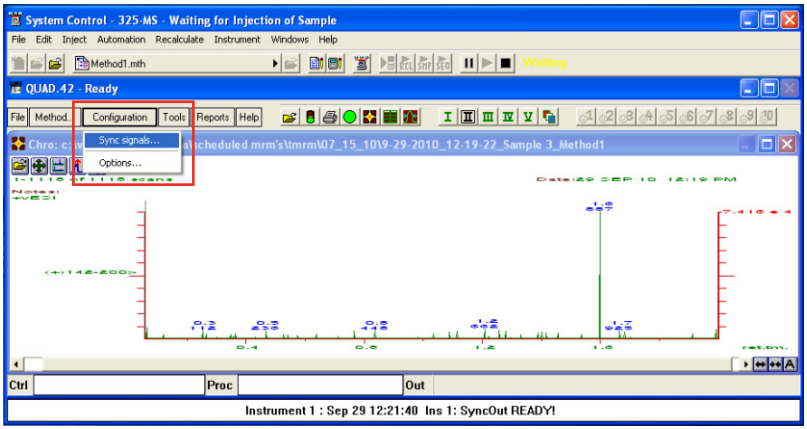

Figure 20 Sync signals command

b Configure the Sync Signals as shown in Figure 21.

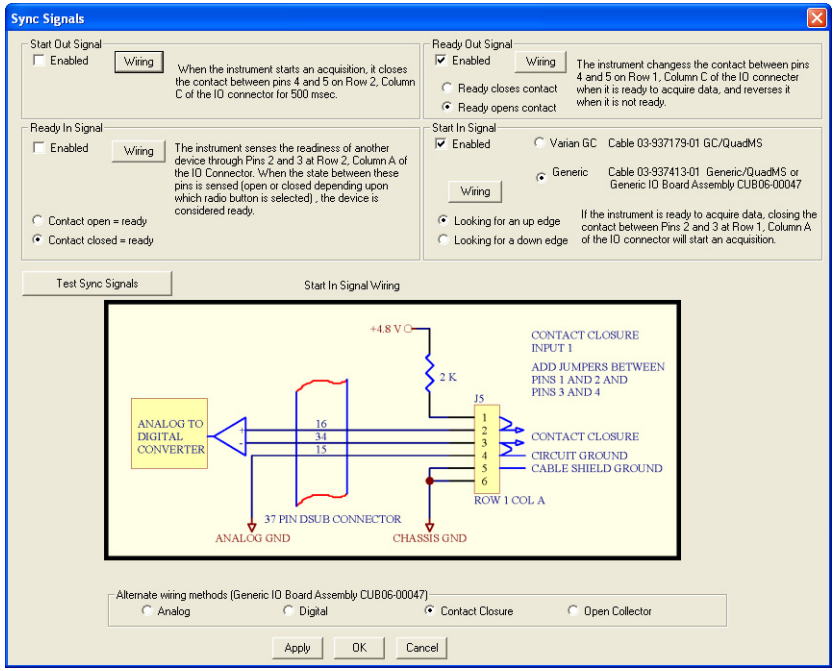
Sync Signals
Start Out Signal
Enabled
Wiring
When the instrument starts an acquisition, it closes the contact between pins 4 and 5 on Row 2, Column C of the IO connector for 500 msec.
Ready Out Signal
Enabled
Wiring
The instrument changess the contact between pins 4 and 5 on Row 1, Column C of the IO connecter when it is ready to acquire data, and reverses it when it is not ready.
Ready closes contact
Ready opens contact
Ready In Signal
Enabled
Wiring
The instrument senses the readiness of another device through Pins 2 and 3 at Row 2, Column A of the IO Connector. When the state between these pins is sensed (open or closed depending upon which radio button is selected) , the device is considered ready.
Contact open = ready
Contact closed = ready
Start In Signal
Enabled
Varian GC
Cable 03-937179-01 GC/QuadMS
Generic
Cable 03-937413-01 Generic/QuadMS or Generic IO Board Assembly CUB06-00047
Wiring
Looking for an up edge
Looking for a down edge
If the instrument is ready to acquire data, closing the contact between Pins 2 and 3 at Row 1, Column A of the IO connector will start an acquisition.
Test Sync Signals
Start In Signal Wiring
+4.8 V
2 K
CONTACT CLOSURE
INPUT 1
ADD JUMPERS BETWEEN
PINS 1 AND 2 AND
PINS 3 AND 4
J5
ANALOG TO
DIGITAL
CONVERTER
16
34
15
1
2
3
4
5
6
CONTACT CLOSURE
CIRCUIT GROUND
CABLE SHIELD GROUND
ROW 1 COL A
37 PIN DSUB CONNECTOR
ANALOG GND
CHASSIS GND
Alternate wiring methods (Generic IO Board Assembly CUB06-00047)
Analog
Digital
Contact Closure
Open Collector
Apply
OK
Cancel

Figure 21 Sync Signals settings

The Agilent 500 Ion Trap LC/MS is now ready to run sample analysis and collect MS data with the Agilent 1200 Infinity Series.

Refer to the *Agilent 500 Ion Trap LC/MS with the Agilent 1200 Infinity Series Quick Start Guide* for more information on control of the Agilent 1200 Infinity Series with the Agilent 500 Ion Trap LC/MS.

Refer to the operation manuals and user guides for both the Agilent 500 Ion Trap LC/MS and the Agilent 1200 Infinity Series for operation and maintenance.

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In This Book

This guide describes how to set up the Agilent 1200 Infinity Series to be used with the Agilent 500 Ion Trap LC/MS and the MS Workstation software.

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Revision A1, February 2015

9300032300

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